

Docket No.
448563/0191

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: **Shuichi Yamaguchi, et al.**

Group Art Unit: **2853**

Application No.: **09/818,765**

Examiner: **Lam S. Nguyen**

Filed: **March 27, 2001**

Confirmation No.: **2415**

For: **A METHOD OF REFILLING AN INK
CARTRIDGE FOR USE IN INK JET RECORDER**

Date: **October 20, 2006**

APPEAL BRIEF TRANSMITTAL

Mail Stop APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith are (1) an Appeal Brief and (2) a Petition for Extension of Time Under 37 C.F.R. 1.136(a) in the above-identified application.

The Commissioner is authorized to charge the fee for filing the Appeal Brief pursuant to 37 C.F.R. § 41.20(b)(2) (\$500.00), as well as any other fee deemed now or hereafter to be due, to Deposit Account No. 19-4709.

Prompt and favorable consideration are respectfully requested.

Respectfully submitted,

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants respectfully submit this Appeal Brief prepared in accordance with 37

C.F.R. § 41.37 and M.P.E.P. § 1205.02.

A Notice of Appeal was timely filed on May 22, 2006. A Petition for Extension of Time Under 37 C.F.R. § 1.136(a) (3 month) is submitted herewith.

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Appellant's Appeal Brief

I. REAL PARTY IN INTEREST

The real party in interest is Seiko Epson Corporation, the Assignee of record.

II. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences or judicial proceedings known to Appellant, Appellant's legal representative, or Assignee, which may be related to, directly affect, or be directly affected by or having a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 2-4 and 11-15 are pending.

Claims 1, 5-10 and 16-20 have been cancelled.

Claims 2-4 and 11-15 stand rejected.

Claims 2-4 and 11-15 are being appealed.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Final Rejection in the Office Action dated November 23, 2005.

A Response After Final Rejection was filed on March 17, 2006; the claims were maintained unchanged.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A concise explanation of the subject matter defined in each of the appealed independent claims follows.

As described in claim 2, this invention involves a method of refilling a spent ink bag for use in an ink jet recorder. Such a method involves providing the spent ink bag (page 15, lines 19-20; Fig. 15A, ink bag 1), the spent ink bag having an ink supply port that is selectively engageable with the ink jet recorder (page 7, lines 4-5; Fig. 15A, port 5), positioning the spent ink bag (page 16, line 6; Fig. 15A), inserting an ink needle into the ink supply port of the spent ink bag (page 16, lines 5-6; Fig. 15A, ink filling needle 44, port 5; ink bag 1), and pressing the spent ink bag with a pressing plate (page 16, lines 8-10; Fig. 15B, press plate 45). The method also involves discharging ink from the spent ink bag only through the port (page 16; Fig. 15B), such discharging being caused, at least in part, by the pressing of the spent ink bag with the pressing plate (page 16, lines 8-12; page 17, lines 12-15), and after the discharging step (page 16, line 17), charging the spent ink bag only through the port with a specified quantity of ink (page 17, lines 1-5; Fig. 16B).

According to claim 3, Applicants' invention relates to a method of refilling an ink bag for use in an ink jet recorder, the ink bag having a flexible bag portion (page 6, line 5), having an interior and being initially filled with ink through a first opening in the bag (page 9, lines 5 and 17-18; Figs. 4, 6A, 6B, opening 1e) that is sealed after the ink bag is initially filled (page 10, lines 8-10; Fig. 7B, Fig. 9, first seal position 1g). This method includes the steps of providing an ink bag (page 15, lines 19-20; Fig. 15A, ink bag 1), the ink bag having a second opening that is different than the first opening, the second opening being an ink supply port selectively engageable with the ink jet recorder (page 7, lines 4-5; Fig. 15A, port 5), positioning the ink bag (page 16, line 6; Fig. 15A), advancing a tip of an ink needle into the interior of the flexible bag portion by passing the tip of the needle through the second opening (page 16, lines 5-6; Fig. 15A, ink filling needle 44, port 5; ink bag 1), pressing the ink bag with a pressing plate

to cause a quantity of residual ink to be discharged through the second opening (page 16, lines 8-12 and page 17, lines 12-15; Fig. 15B, press plate 45), and charging the ink bag only through the second opening with a specified quantity of ink (page 17, lines 1-5; Fig. 16B).

Applicants' invention, as set out in claim 4, involves a method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening in the bag (page 9, lines 5 and 17-18; Figs. 4, 6A, 6B, opening 1e) that is sealed after the ink bag is initially filled (page 10, lines 8-10; Fig. 7B, Fig. 9, first seal position 1g), through the steps of providing the ink bag (page 15, lines 19-20; Fig. 15A, ink bag 1), the ink bag having, disposed on a line (Figs. 4, 5A, positions of port 5 and opening 1e), the first opening and an opposing second opening that is an ink supply port selectively engageable with an ink jet recorder (page 7, lines 4-5; Fig. 15A, port 5), positioning the ink bag (page 16, line 6; Fig. 15A), advancing the tip of an ink needle along the line and through the second opening in the ink bag (page 16, lines 5-6; Fig. 15A, ink filling needle 44, port 5; ink bag 1), and pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening (page 16, lines 8-10, and page 17, lines 12-15; Fig. 15B, press plate 45). The method also includes a step of charging the ink bag only through the second opening with a specified quantity of ink (page 17, lines 1-5; Fig. 16B).

Claim 14 is directed to a method of refilling an ink bag for use in an ink jet recorder, such an ink bag having a flexible bag portion with an interior and being initially filled with ink through a first opening formed by a part of the flexible bag portion (page 9, lines 5 and 17-18; Figs. 4, 6A, 6B, opening 1e) and which first opening is sealed after the ink bag is initially filled (page 10, lines 8-10; Fig. 7B, Fig. 9, first seal position 1g). This method involves providing the ink bag (page 15, lines 19-20; Fig. 15A, ink bag 1), the ink bag having a second

opening formed in a port attached to another part of the flexible bag portion and that is different than the first opening, the second opening being an ink supply port selectively engageable with the ink jet recorder (page 7, lines 4-5; Fig. 15A, port 5), positioning the ink bag (page 16, line 6; Fig. 15A), advancing the tip of an ink needle into the interior of the flexible bag portion by passing the tip of the needle through the second opening in the port (page 16, lines 5-6; Fig. 15A, ink filling needle 44, port 5; ink bag 1), pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening (page 16, lines 8-10, and page 17, lines 12-15; Fig. 15B, press plate 45), and charging the ink bag only through the second opening in the port with a specified quantity of ink (page 17, lines 1-5; Fig. 16B).

As set out in claim 15, this invention relates to a method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening formed by a part of the flexible bag portion (page 9, lines 5 and 17-18; Figs. 4, 6A, 6B, opening 1e) and which first opening is sealed after the ink bag is initially filled (page 10, lines 8-10; Fig. 7B, Fig. 9, first seal position 1g). The method involves providing the ink bag (page 15, lines 19-20; Fig. 15A, ink bag 1), the ink bag having, disposed on a line (Figs. 4, 5A, positions of port 5 and opening 1e), the first opening and an opposing second opening formed in a port attached to another part of the flexible bag portion, and the second opening is an ink supply port selectively engageable with an ink jet recorder (page 7, lines 4-5; Fig. 15A, port 5), positioning the ink bag (page 16, line 6; Fig. 15A), advancing the tip of an ink needle along the line and through the second opening in the port (page 16, lines 5-6; Fig. 15A, ink filling needle 44, port 5; ink bag 1), pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening (page 16, lines 8-10, and page 17, lines 12-15; Fig. 15B, press plate

45), and charging the ink bag only through the second opening in the port with a specified quantity of ink (page 17, lines 1-5; Fig. 16B).

The foregoing identification of portions of the specification and drawings corresponding to various claim features is only for the purpose of this appeal, and is not intended to limit the scope of those claim features to the teachings of the disclosure.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The ground of rejection to be reviewed on appeal is:

Whether claims 2-4 and 11-15 are unpatentable under 35 U.S.C. § 103(a) over German Patent Appln. No. 34 01 071 A1 to Vollert in view of U.S. Patent No. 5,903,292 to Scheffelin et al. and U.S. Patent No. 4,126,868 to Kirner, as rejected in the Office Action dated November 23, 2005.

VII. ARGUMENT

For a patent application claim to be found obvious under 35 U.S.C. § 103(a) during prosecution, the Examiner must establish a *prima facie* case of obviousness. See In re Spada, 911 F.2d 705, 707, 15 U.S.P.Q.2d 1655, 1657 (Fed. Cir. 1990).

The Patent and Trademark Office recognizes in M.P.E.P. § 2142 that, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of

success must both be found in the prior art, and not based on applicant's disclosure (citations omitted).

The outstanding rejection in the Office Action is in error because there is no suggestion or motivation to combine the asserted references.

The outstanding rejection in the Office Action also is in error because the asserted references, when combined, still do not even suggest all the features of the claimed invention.

A. THE CITED REFERENCES
SHOULD NOT BE COMBINED

The outstanding rejection of claims 2-4 and 11-15 as being unpatentable under 35 U.S.C. § 103(a) over German Patent Appln. No. 34 01 071 A1 to Vollert (hereafter "Vollert") in view of U.S. Patent No. 5,903,292 to Scheffelin et al. (hereafter "Scheffelin") and U.S. Patent No. 4,126,868 to Kirner (hereafter "Kirner") is respectfully traversed on grounds one skilled in the art would not combine Vollert and Scheffelin with Kirner.

When a rejection under 35 U.S.C. § 103(a) is based upon multiple references, the Examiner must show some suggestion or motivation, before the invention itself, to make the combination of those references. Ruiz v. A.B. Chance Co., 357 F.3d 1270, 1275, 69 U.S.P.Q.2d 1686, 1690 (Fed. Cir. 2004). The showing of a motivation to combine must be clear and particular and it must be supported by actual evidence. Teleflex Inc. v. Ficosa North America Corp., 299 F.3d 1313, 1334, 63 U.S.P.Q.2d 1374, 1387 (Fed. Cir. 2002). Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching or motivation to combine serve a number of important purposes. In re Dembiczak, 175 F.3d 994, 999-1000, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

The Dembiczak court was critical of the justification for combination proposed by the Patent and Trademark Office's Board of Patent Appeals and Interferences, and it is edifying to note the reasoning that Dembiczak deemed to be incorrect:

To justify this combination, the Board simply stated that 'the Holiday and Shapiro references would have suggested the application of... facial indicia to the prior art plastic trash bags.'.... However, rather than pointing to specific information in Holiday or Shapiro that suggest the combination with the conventional bags, the Board instead described in detail the similarities between the Holiday and Shapiro references and the claimed invention, noting that one reference or the other--in combination with each other and the conventional trash bags--described all of the limitations of the pending claims.... Nowhere does the Board particularly identify any suggestion, teaching, or motivation to combine the children's art references (Holiday and Shapiro) with the conventional trash or lawn bag references, nor does the Board make specific--or even inferential--findings concerning the identification of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a proper obviousness analysis.

To the contrary, the obviousness analysis in the Board's decision is limited to a discussion of the ways that the multiple prior art references can be combined to read on the claimed invention. For example, the Board finds that the Holiday bag reference depicts a 'premanufactured orange' bag material... finds that Shapiro teaches the use of paper bags in various sizes, including 'large'..., and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice.... Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention.... Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand.

Dembiczak, 175 F.3d at 1000, 50 U.S.P.Q.2d at 1617-18 (citations omitted).

The Office Action asserts that claims 2-4 and 11-15 are unpatentable under 35 U.S.C. § 103(a) in view of Vollert, Scheffelin and Kirner because:

[I]t would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the printing system

disclosed by Voller[t] in view of Scheffelin et al. to include a pressing plate for pressing the ink bag to discharge ink as disclosed by Kirner. The motivation for doing so would have been to be able to manually control the ink discharge by manually pressing on the pressing plate to apply pressure on the ink bag as taught by Kirner (column 2, lines 60-65).

Appellant respectfully traverses this rejection on grounds the purported justification for combining Kirner with the other two references is insufficient.

More specifically, the Office Action's justification for the combination of Vollert and Scheffelin with Kirner does not constitute a "clear and particular" statement as is required by Dembiczak. Rather, this justification is merely an unsupported broad conclusory statement, which is precisely the type of justification that Dembiczak held is not evidence. Nowhere does the Office Action point to a specific teaching in Kirner (or any other reference) to support the asserted combination of Kirner with the other references.

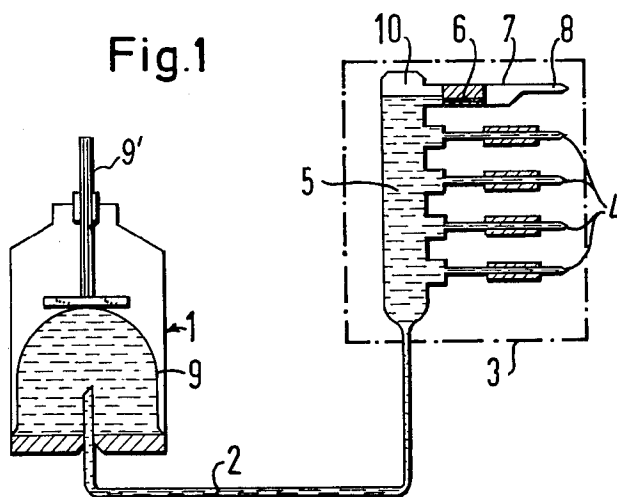
Consequently, the combination of Vollert and Scheffelin with Kirner is based only upon unsupported speculation, and so is not well-taken.

Even assuming *arguendo* that the grounds which the Office Action asserted warranted the combination of Kirner with the other references constitute a sufficiently "clear and particular" statement, this combination fails because the reasoning in the Office Action is not consistent with the teachings of the references.

The claimed invention involves the refilling of a depleted ink cartridge. Vollert and Scheffelin likewise involve refilling ink cartridges. The Office Action **admits** Vollert and Scheffelin do not suggest the claimed invention.¹

¹ The Office Action acknowledges the deficiencies of those two references: "Voller[t] in view of Scheffelin et al. even though teaches discharging ink from the ink bag by pulling the spring, but do not disclose a pressing plate for pressing the spent ink bag to cause, at least in part, the discharging." (Office Action, page 4).

Kirner, meanwhile, is unconcerned with emptying and then refilling an ink cartridge. Rather, Kirner involves the removal of unwanted bubbles from ink during routine printing. Kirner accomplishes the removal of such bubbles by using a plate to apply pressure to a reservoir during normal printer operation to cause the unwanted bubbles to be discharged from a capillary tube, as can be seen in Fig. 1 of that patent:



Kirner teaches that any discharge of ink during this bubble discharge process is incidental:

[w]hen the liquid level reaches the capillary 6 the printing ink enters the capillary and closes the same off. As the pressure is maintained, the ink passes through the capillary 6 and collects in the enlargement 7. **In the event the latter fills up, the surplus drains off through a drain passage 8.**

(col. 3, lines 2-7) (emphasis added).

This passage does not suggest the purposeful discharge of ink during a refilling operation - Kirner refers to the excess ink as "surplus", signifying that such liquid is not intentionally being discharged.

One skilled in the art therefore would recognize that Kirner does not deliberately expel ink, but rather, that any discharge of ink is a mere side-effect accompanying the intended removal of air bubbles from the ink.

Given these teachings a person having skill in the art would understand that Kirner relates to a system for removing air bubbles from ink during routine printing, and has nothing to do with the refilling of ink cartridges.

Consequently, a person of ordinary skill in the art seeking to improve upon schemes for refilling ink cartridges, and knowing of Vollert and Scheffelin, which relate to ink cartridge filling, would not look to and adopt the teachings of Kirner, because such a person would regard Kirner only as being directed to the entirely unrelated practice of clearing air bubbles from ink during normal printing.

One skilled in the art seeking to improve refilling in view of the teachings of Vollert and Scheffelin, which relate to ink cartridge filling, would not look to Kirner, which they would understand is directed to clearing air bubbles from ink during normal printing. More particularly, one skilled in the art would recognize Kirner (1) teaches that any discharge of ink when the ink bag is pressed is just a side effect of bubble discharge, and (2) only presses the ink bag during normal printing, not during cartridge refilling, and so would disregard Kirner. Put another way, there is no reason one refilling an ink bag in the manner of Vollert and Scheffelin would look to and rely upon the teachings of Kirner that relate to normal printer operation, not ink bag refilling. Accordingly, one skilled in the art would not consider Kirner in connection with Vollert and Scheffelin.

Since the Office Action provides no reasonable justification for the combination of Kirner with Vollert and Scheffelin, the Office Action has not met the burden of establishing a *prima facie* case of obviousness, as is required by Spada and M.P.E.P. § 2142.

For all the foregoing reasons the Office Action's combination of Kirner with the other references is in error, and consequently the rejection under § 103(a) cannot stand.

B. IF COMBINED, THE CITED REFERENCES
DO NOT SUGGEST THE CLAIMED INVENTION

The rejection of claims 2-4 and 11-15 as being unpatentable under 35 U.S.C. § 103(a) over German Patent Appln. No. 34 01 071 A1 to Vollert (hereafter "Vollert") in view of U.S. Patent No. 5,903,292 to Scheffelin et al. (hereafter "Scheffelin") and U.S. Patent No. 4,126,868 to Kirner (hereafter "Kirner") is respectfully traversed on grounds the combination of Vollert, Scheffelin and Kirner does not suggest all the features of the claimed invention.

A reference must be considered for all that it teaches, disclosures that diverge and teach away from the invention at hand, as well as disclosures that point toward and teach the invention. In re Dow Chemical Co., 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531-32 (Fed. Cir. 1993). A reference may be said to teach away when a person of ordinary skill, upon reading it, would be discouraged from following the path set out in the reference, **or would be led in a direction divergent from the path taken by the inventor.** Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 885, 45 U.S.P.Q.2d 1977, 1984 (Fed. Cir. 1998) (emphasis added); In re Gurley, 27 F.3d 551, 553, 31 U.S.P.Q.2d 1130, 1131-32 (Fed. Cir. 1995). In general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the inventor. *id.*

It is impermissible within the framework of § 103(a) to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts

necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. Bausch & Lomb, Inc. v. Barnes-Hind, Inc., 796 F.2d 443, 448, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986), cert. denied, 484 U.S. 823 (1987); In re Hedges, 783 F.2d 1038, 1041, 228 U.S.P.Q.2d 685, 687 (Fed. Cir. 1986). See also M.P.E.P. § 2141.02(VI), which holds that when applying a reference under § 103(a) all of the reference's teachings must be considered, not just the portion teaching an aspect of the claimed invention: "prior art must be considered in its entirety, including disclosures that teach away from the claims".

Generally, this invention, as set out in claims 2-4, 14 and 15, is directed to a method of refilling an ink bag to be used in an ink jet recorder. Such a method includes the steps of providing the ink bag, positioning the ink bag, inserting an ink needle into the ink bag through an opening that is selectively engageable with the recorder, and pressing the ink bag with a pressing plate to discharge residual ink. Then the ink bag is charged with a specified quantity of ink through the opening.²

More specifically, claim 2 includes the step of pressing the **spent** ink bag with a pressing plate.

Similarly, claims 3, 4, 14 and 15 describe pressing the ink bag with a pressing plate to cause a quantity of **residual** ink to be discharged through the second opening.

Those skilled in the art will appreciate that these pressing steps are carried out in a procedure involving a used ink bag. That is, they are performed in a refilling process, and not in an initial filling operation.

² This summary of the invention is for the purposes of appeal and is not intended to alter the scope of protection afforded by the claims.

At least this step of pressing the used ink bag with a pressing plate to cause ink to be discharged patentably distinguishes over the cited Vollert, Scheffelin and Kirner references.

The Office Action **admits** the combination of Vollert and Scheffelin does not suggest the claim feature of pressing the ink bag with a pressing plate to cause the discharge of ink (Office Action, p. 4).³

The Office Action then looks to Kirner to remedy this deficiency and asserts Kirner teaches the claimed step of using a pressing plate. However, the Office Action contains at least two errors, in that the Office Action (1) does not properly characterize the claimed invention, and (2) misconstrues Kirner.

First, it must be kept in mind that the claimed invention involves a **method** of refilling a spent ink bag. As a method, this invention is defined with regard to the recited steps. It is irrelevant whether the applied references teach structures mentioned in the claims - to suggest the claimed invention those references must teach each and every one of the claimed method steps.

Kirner fails to remedy the admitted deficiencies of Vollert and Scheffelin by suggesting the claimed step of pressing the ink bag with a pressing plate, as explained below.

The Office Action is in error because, with regard to the use of a pressing plate, the Office Action impermissibly picks and chooses Kirner's pressing plate while disregarding the rest of Kirner's disclosure. This is unacceptable under Bausch & Lomb and Hedges, which hold that it is forbidden to pick and choose a teaching from any one reference while ignoring the other

³ "In addition, Voller[t] in view of Scheffelin et al. even though teaches discharging ink from the ink bag by pulling the spring, but do not disclose a pressing plate for pressing the spent ink bag to cause, at least in part, the discharging." (Office Action, page 4).

parts of the reference needed to appreciate fully what the reference fairly suggests to one skilled in the art.

Because a prior art reference must be considered in its entirety, including portions of the disclosure that teach away from the claims, it is not sufficient in a rejection under § 103(a) simply to find part of a claimed invention in the reference - one also must consider the context in which that part of the invention is found.

Owing to this requirement, Kirner fails to remedy the deficiencies of the other references, and does not suggest the claimed invention.

Kirner has nothing to do with refilling a spent ink bag. Kirner merely teaches a method of removing air bubbles from the distributor arrangement of a printer (not an ink bag) **during a normal printing operation** by manually pressing an ink supply to increase the ink pressure in the printing system (col. 2, lines 57-62; Fig. 1). Kirner does this using a bleed device for an ink jet printer that allows a user, during normal printing, to remove from the printer's ink supply system gas that was dissolved in the ink and which has formed bubbles in a portion of the ink supply system (col. 2, line 57, through col. 3, line 7). Kirner provides a hand-operated member 9' (which the Office Action characterizes as a pressing plate) that allows the user to raise the pressure in the ink supply system so that the level of ink in the riser pipe increases, causing air bubbles entrained in the ink within distributor arrangement 5 to escape through capillary tube 6 (col. 2, lines 62-68).

Assuming *arguendo* that Kirner's flexible wall 9 corresponds to an ink bag, it must be kept in mind that Kirner teaches plate 9' applies pressure to the flexible wall 9 during **routine operation**, meaning that the flexible wall/ink bag which is pressed by pressing plate 9'

contains a quantity of ink sufficient for operation. In other words, the pressed ink bag is not spent, it is still capable of use during printing.

One skilled in the art also would recognize Kirner's plate 9' only is used for removing gas bubbles from the ink supply system of the printer during printing, and has nothing to do with refilling a spent ink bag.

Nowhere does Kirner talk about a procedure for refilling an ink bag. Nor is there any suggestion in Kirner that would lead one skilled in the art to apply Kirner's teachings to a method for refilling an ink bag, a procedure which one skilled in the art would appreciate is not performed during normal printing operation. One of ordinary skill in the art would realize that such refilling is carried out only after normal printing has concluded.

Monarch Knitting holds that a reference teaches away when a person skilled in the art would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path taken by the inventor. Accordingly, Kirner, which would lead one skilled in the art away from pressing a spent cartridge not mounted in a printer to facilitate refilling to instead apply pressure during operation to release air bubbles, would be understood by one skilled in the art to teach away from the claimed invention.

Were one skilled in the art to combine Kirner with Vollert and Scheffelin, that still would not lead to the present invention. All that would be suggested is the use of Vollert's and Scheffelin's ink cartridges and filling schemes with Kirner's printing system. That system would have Kirner's flexible wall 9, and during routine operation, plate 9' would be actuated periodically to increase pressure in the system having ink cartridges from Vollert and Scheffelin to remove air bubbles from the distributor arrangement structure of the printer ink system by raising the ink level in a capillary system.

Such a system still would not suggest at least the aspects of the claimed invention involving the method steps of pressing a spent ink bag with a pressing plate to remove a quantity of residual ink.

Consequently, the Office Action has not proven that the cited references together suggest all the features of Applicants' claimed invention. Accordingly, the Office Action fails to meet its burden of establishing a *prima facie* case of obviousness, as is required by M.P.E.P. § 2142.

For all the foregoing reasons the rejection of claims 2-4 and 11-15 as being unpatentable under § 103(a) over Vollert, Scheffelin and Kirner is erroneous and must be reversed.

Consequently, favorable consideration, withdrawal of this rejection and prompt allowance of this application are respectfully requested.

VIII. CLAIMS APPENDIX

2. A method of refilling a spent ink bag for use in an ink jet recorder, comprising the steps of:

providing the spent ink bag, the spent ink bag having an ink supply port that is selectively engageable with the ink jet recorder;

positioning the spent ink bag;

inserting an ink needle into the ink supply port of the spent ink bag;

pressing the spent ink bag with a pressing plate;

discharging ink from the spent ink bag only through said port, the discharging being caused, at least in part, by the pressing of the spent ink bag with the pressing plate; and

after said discharging step, charging the spent ink bag only through said port with a specified quantity of ink.

3. A method of refilling an ink bag for use in an ink jet recorder, the ink bag having a flexible bag portion having an interior and being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

providing an ink bag, the ink bag having a second opening that is different than the first opening, the second opening being an ink supply port selectively engageable with the ink jet recorder;

positioning the ink bag;

advancing a tip of an ink needle into the interior of the flexible bag portion by passing the tip of the needle through the second opening;

pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening; and

charging the ink bag only through the second opening with a specified quantity of ink.

4. A method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening in the bag that is sealed after the ink bag is initially filled, said method comprising the steps of:

providing the ink bag, the ink bag having, disposed on a line, the first opening and an opposing second opening that is an ink supply port selectively engageable with an ink jet recorder;

positioning the ink bag;

advancing a tip of an ink needle along the line and through the second opening in the ink bag;

pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening; and

charging the ink bag only through the second opening with a specified quantity of ink.

11. The method of claim 2, further comprising the step of removing the spent ink bag from the ink jet recorder,

wherein said discharging is performed after said removing step.

12. The method of claim 3, further comprising the step of removing the spent ink bag from the ink jet recorder.

13. The method of claim 4, further comprising the step of removing the spent ink bag from the ink jet recorder.

14. A method of refilling an ink bag for use in an ink jet recorder, the ink bag having a flexible bag portion having an interior and being initially filled with ink through a first opening formed by a part of the flexible bag portion and which said first opening is sealed after the ink bag is initially filled, said method comprising the steps of:

providing an ink bag, the ink bag having a second opening formed in a port attached to another part of the flexible bag portion and that is different than the first opening, the second opening being an ink supply port selectively engageable with the ink jet recorder;

positioning the ink bag;

advancing a tip of an ink needle into the interior of the flexible bag portion by passing the tip of the needle through the second opening in the port;

pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening; and

charging the ink bag only through the second opening in the port with a specified quantity of ink.

15. A method of refilling an ink bag for use in an ink jet recorder, the ink bag being initially filled with ink through a first opening formed by a part of the flexible bag portion

and which said first opening is sealed after the ink bag is initially filled, said method comprising the steps of:

providing the ink bag, the ink bag having, disposed on a line, the first opening and an opposing second opening formed in a port attached to another part of the flexible bag portion, and the second opening is an ink supply port selectively engageable with an ink jet recorder;

positioning the ink bag;

advancing a tip of an ink needle along the line and through the second opening in the port;

pressing the ink bag with a pressing plate to cause a quantity of residual ink to be discharged through the second opening; and

charging the ink bag only through the second opening in the port with a specified quantity of ink.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.

XI. CONCLUSION

Favorable consideration and granting of this appeal are respectfully requested.

Other than the fee required for the submission of this Appeal Brief, no fees are believed to be due in connection with the filing of this paper. Nevertheless, the Commissioner is authorized to charge any fee now or hereafter due required during the prosecution of this application to Deposit Account No. 19-4709.

Prompt and favorable consideration are respectfully requested.

Respectfully submitted,

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